

REMARKS

Claims 1-9, 11, 13-54, 56-81, and 83 are pending in this application. Claims 10, 12, 55, and 82 were previously canceled. Applicant has amended claims 1-3, 22-23, 28, 32, 45-46, 51, 54, 72, and 79 to more particularly point out and distinctly claim applicant's invention and to address typographical and stylistic errors. No new matter has been introduced by way of these amendments.

As a preliminary matter, to resolve any potential ambiguities, applicant notes that the Examiner's statement regarding the withdrawn rejections based upon U.S. Patent No. 6,016,553 should refer to Schneider et al. and not, as listed, to Hansen. See Office Action, dated October 25, 2005, p. 2, ¶ 3 (hereinafter "Office Action").

Rejections Under 35 U.S.C. § 112

The Examiner has rejected claims 28 and 51 under 35 U.S.C. § 112, second paragraph as indefinite. Specifically, the Examiner asserts that independent claim 3 recites that the locations in the protected space must remain unaltered, but that claim 28, which depends on claim 3, recites the alteration of data in the protected space. The Examiner concludes that these aspects are contradictory to one another, thereby rendering claim 28 indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The Examiner makes a similar argument with respect to claim 51.

Although claims 28 and 51 have been amended to emphasize that the data in the protected space may in some embodiments be altered in some circumstances, applicant believes that these claims prior to amendment were not indefinite. Specifically, the recitations of claim 3 and claim 28 are not contradictory insofar as claim 28, prior to amendment, recited "copying data from the redirected space to the associated locations in the protected space" and thereby refining the aspect of claim 3 that "data stored in the location in the protected space automatically remain unaltered when the computer system is restarted from a powered-down state." In other words, in light of claim 28, the characteristic of non-alterability recited by claim 3 can be understood as a "default" condition that may be overridden by further action of

applicant's techniques. (See, *e.g.*, Applicant's Specification, p. 4, lines 10-14 and p. 22, line 21 – p.23, line 3, hereinafter "Specification.")

However, in furtherance of prosecution, (and not to be interpreted as agreement with the Examiner's position) applicant has amended claims 28 and 51 to recite "saving the data stored in the redirected space by copying the saved data from the redirected space to associated locations in the protected space, *thereby altering the data stored in the associated locations in the protected space that would otherwise automatically remain unaltered*" (emphasis added). As amended, claims 28 and 51 override the referenced characteristic "that the data stored in the location in the protected space automatically remain unaltered" recited by claims 3 and 32, on which they respectively depend. As such, the recited language of claims 28 and 51 refines, rather than contradicts, the claims from which they depend and therefore meet the requirements under 35 U.S.C. § 112, second paragraph. Accordingly, applicant respectfully requests that the Examiner withdraw the rejections to claims 28 and 51.

Additionally, because the Examiner has not rejected claims 28 and 51 based on the prior art, applicant submits that these claims are therefore allowable.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 1-9, 11, 13-15, 27, 29-30, 32-40, 50, 52-64, 66-67, 71-72, 74, 76-79, 81, and 83 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,832,263 issued to Hansen et al. ("Hansen"). The Examiner has also rejected claims 1-9, 11, 13-26, 30-49, 53-54, 56, 58-67, 69-70, 72, 74-81, and 83 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,437,018 issued to Kobayashi et al. ("Kobayashi"). Applicant respectfully traverses these rejections.

In essence, the Examiner appears to be asserting that Hansen's or Kobayashi's described techniques, which provide the illusion of modifiability for *otherwise non-modifiable storage devices* (*e.g.*, CD-ROMs, semiconductor ROMs, etc.), somehow teach, suggest, or motivate applicant's claimed techniques for "providing a storage redirection driver that protects the storage devices of a computer system from alteration." (Specification, p. 1, lines 11-12.)

Applicant respectfully disagrees for several reasons. As a preliminary matter, the concept of “protecting” non-modifiable storage from modification is illusory – there is no need for protection in such cases. Nonetheless, in furtherance of prosecution, applicant has amended the independent claims to clarify that the recited techniques protect storage in instances where such storage would otherwise be alterable. Applicant, however, believes that the recited claims are distinguished from the cited references prior to amendment.

A comparison of applicant’s techniques and claims with the Hansen and Kobayashi references is provided to merely help the Examiner appreciate important claim distinctions discussed thereafter, and does not define the scope or interpretation of any of applicant’s claims. In summary, applicant’s claimed methods, systems, and computer readable memory mediums provide techniques for “providing a storage redirection driver that protects the storage devices of a computer system from alteration.” (Specification, p. 1, lines 11-12.) In one embodiment, applicant describes a Disk Access Redirection System (DARS) that “can protect such storage devices such as disk drives, and other persistent and semi-persistent storage devices. The DARS reads data from and writes data to a redirected area ... when a storage access request is received that would otherwise alter the state of an area of the storage device that has been designated as protected.” (Specification, p. 2, lines 17-21.)

Hansen, in contrast, is directed generally to making *non-modifiable storage appear as if it were modifiable*. Specifically, Hansen describes a system and method for “for allowing modification of information recorded in a *read-only storage*” by “intercept[ing] read and write requests targetted [sic] at the *read-only storage* and remap[ing] them ... to a modifiable storage area.” (Hansen, Abstract, emphasis added) Hansen further describes a system and method for “allowing modification of information recorded [in] a non-modifiable store (NMS) ... by intercept[ing] file accesses of the NMS and us[ing] an associated non-volatile modifiable store to track and record all modifications made to the information recorded in the NMS.” (Hansen, column 3, lines 46-61, hereinafter indicated in col#:line# format.) Hansen explicitly defines a non-modifiable store as: “‘non-modifiable store (NMS)’ refers to any storage *which does not allow information or data to be changed* ... As such, non-modifiable stores include but are not limited to CD-ROMs, hardware ROMs, read-only network directories,

read-only files, WORM media ..., write-protected diskettes, and the like.” (Hansen, 3:49-57, emphasis added.) In summary, Hansen describes the *illusion* of modifiability for an otherwise *non-modifiable* storage device by intercepting accesses to the non-modifiable storage device and tracking and recording such accesses on a corresponding modifiable storage device. Hansen does not describe protecting storage that can be modified.

Kobayashi is likewise directed to an illusion of making non-modifiable storage appear as if it were modifiable. Specifically, Kobayashi describes a semiconductor auxiliary storage device comprising a “ROM and RAM, [wherein] a portion of the ROM contents is copied into the RAM so that access modification for programs and data is permitted while the basic program and data is retained in a nonvolatile manner.” (Kobayashi, Abstract.) Kobayashi describes “that the semiconductor auxiliary storage device contains both read-only storage and erase/write storage capability...” (Kobayashi, 2:51-53.) Kobayashi further describes copying data from a portion of the read-only storage into the erase/write storage thereafter translating accesses to the portion of the read-only storage to the erase/write storage. (Kobayashi, 2:53-3:1.) As in Hansen, Kobayashi utilizes a modifiable storage device (*e.g.*, a RAM) to provide *the illusion of modifiability* of a *non-modifiable* storage device (*e.g.*, a ROM), and does not describe protecting storage that can be modified.

Applicant’s claims, as amended, recite several aspects that are nowhere taught, suggested, or motivated by either Hansen or Kobayashi, alone or in combination. Each of independent claims 1-3, 32, 54, 72, and 79, as amended, recite receiving, intercepting, or otherwise processing requests that *would otherwise modify* a location in the designated protected space of a storage device. Specifically, claim 1, as amended, recites, “receiving a request for write access that would otherwise modify a portion of data on the storage device.” Claim 2, as amended, recites, a “data access request that would otherwise modify an original location on the storage device.” Claim 3, as amended, recites, “intercepting from requesting code a request that would otherwise modify a location in the protected space of the storage device.” Claim 32, as amended, recites, “intercepting from requesting code a request that would otherwise modify a location in the protected space of the storage device.” Claim 54, as amended, recites, “intercepts requests that would otherwise modify locations in the protected space.” Claim 72, as amended,

recites, “intercepting a request that would otherwise modify a location on the storage device.” Claim 79, as amended, recites, “... intercepts a request that would otherwise modify one of the designated locations.”

Hansen, in contrast, does not teach, suggest, or motivate “receiving a request for write access *that would otherwise modify* a portion of data on the storage device” as recited in claim 1 (emphasis added) or the aspects of receiving, intercepting, or other processing of a request that are recited in the other independent claims 2-3, 32, 54, 72, or 79. As described above, Hansen is directed to making *non-modifiable storage appear as if it is modifiable*. This is the antithesis of the subject matter of applicant’s claims. Any write requests intercepted in Hansen are *not ever capable* of modifying the underlying storage media, because the underlying storage media is inherently non-modifiable. Thus, Hansen by definition cannot operate to achieve the acts/elements recited by applicant’s claims. The Examiner himself admits as much on page 4 of the Office Action: “since the storage device is read-only, it is automatically protected from alteration as modifications are not allowed” (emphasis in original). Because the storage devices in Hansen are not capable of being modified, they do not and cannot teach, suggest, or motivate the recited aspects of receiving, intercepting, or otherwise processing requests that would otherwise modify data residing on such devices.

Nor does Kobayashi teach, suggest, or motivate the receiving, intercepting, or otherwise processing requests aspects of claims 1-3, 32, 54, 72, or 79. As described above, Kobayashi is also directed to making non-modifiable storage appear as if it is modifiable. Thus, at least for the same reasons discussed with reference to Hansen, Kobayashi does not and cannot teach, suggest, or motivate the recited aspect of receiving, intercepting, or otherwise processing requests that would otherwise modify data residing on such devices.

As stated, Hansen and Kobayashi are both directed at solving a problem (*i.e.*, making non-modifiable storage media appear to be modifiable) that is antithetical to the general problem addressed by applicant’s claimed techniques and systems (*i.e.*, protecting modifiable storage devices from modification). Moreover, neither Hansen nor Kobayashi contain any suggestion that their techniques could be used to solve the problem addressed by applicant’s claimed techniques and systems.

Thus, because at least one aspect of claims 1-3, 32, 54, 72, and 79 is not taught, suggested or motivated by either Hansen or Kobayashi, claims 1-3, 32, 54, 72, and 79 are not anticipated by or obvious in view of Hansen and/or Kobayashi.

Note that applicant's dependent claims 4-9, 11, 13-31, 33-53, 56-71, 73-78, 80-81, and 83 are also not taught, suggested, or motivated by either Hansen or Kobayashi for a variety of other reasons. In the interests of expediting prosecution, such arguments are not addressed herein except as discussed with reference to the Examiner's § 103 rejections, below. Accordingly, applicant reserves the right to further traverse these rejections if necessary.

Rejections under 35 U.S.C. § 103

The Examiner has also rejected claims 68 and 73 under 35 U.S.C. § 103(a) as obvious over Hansen or Kobayashi in view of various other references. Specifically, the Examiner has rejected claim 73 over Hansen or Kobayashi in view of Microsoft Computer Dictionary, 5th edition, Microsoft Press, 2002, page 508 ("Microsoft Dictionary"). In addition, the Examiner has rejected claim 68 over Hansen or Kobayashi in view of White et al., U.S. Patent No. 6,092,161 ("White").

With respect to claim 73, the Examiner admits that neither Hansen nor Kobayashi teach that "the redirection driver cannot be uninstalled by a user without special access privileges." (Office Action, p. 23, ¶ 10.) The Examiner then refers to the Microsoft Dictionary to support his contention that the concept of special access privileges was well known in the art at the time of applicant's invention. As a preliminary matter, the effective filing date of applicant's patent application is August 8, 2000, which predates the publishing date of this reference. Therefore, this reference does not support the Examiner's contention that such concepts were well known at the time of filing. Furthermore, even assuming, *arguendo*, that such techniques were well known at the time of applicant's filing, the Examiner has failed to meet his *prima facie* burden of establishing that such techniques could be combined in an obviousness rejection. Merely stating that it would be obvious to add a known feature to another reference to "ensure the security of the system" does not meet this burden. (Office Action, page 23.) There must be some teaching or suggestion *in either or both references or in the art* to

legitimately combine them. The Examiner has pointed to no such suggestion. Further, hindsight reconstruction, using the applicant's claims as a template for combining the references is also not permitted.

Moreover, applicant notes that there is no teaching or suggestion in either Hansen or Kobayashi for initially "installing a redirection driver before the device driver in a calling sequence" as recited in claim 72, from which claim 73 depends. Thus, the "uninstalling" as recited in claim 73 is to be understood in light of the "installing" as recited in claim 72. Accordingly, even if one were to assume that the aspect of uninstalling "by a user without special access privileges" is known, there is no teaching, suggestion, or motivation to uninstall *a redirection driver* that has been installed "before the device driver in a calling sequence" as claimed. Thus, claim 72 is not rendered obvious by Hansen or Kobayashi in view of the Microsoft Dictionary.

With respect to claim 68, the Examiner admits that neither Hansen nor Kobayashi teach that "the redirection driver disregards access requests to the unprotected space." Again, the Examiner has failed to meet his *prima facie* burden of establishing that such techniques could be combined in an obviousness rejection. Merely stating that it would be obvious to combine features from Hansen/Kobayashi with features from White to "make the system more user-friendly and also better utilize the computer resources" does not meet this burden. (Office Action, page 23, ¶ 10) There must be some teaching or suggestion *in either or both references or in the art* to legitimately combine them. The Examiner has pointed to no such suggestion. Further, hindsight reconstruction, using the applicant's claims as a template for combining the references is also not permitted.

Hansen/Kobayashi and White are directed to solving different problems, and thus there is no apparent reason on the surface to combine them. Hansen and Kobayashi, as noted above, are directed to providing the illusion of modifiability of non-modifiable storage devices. White, on the other hand, is directed to hardware that resides between a PC and a disk, for restricting modifications to areas on a modifiable storage device (*e.g.* a disk), such as boot partitions (see White, Figs. 6-8, 1:65-2:32).

Moreover, the combination would render Hansen/Kobayashi inoperable. The Examiner asserts that White teaches allowing writing to user-granted information sectors. (Office Action, p. 23, ¶ 11) However, allowing writing to some portions of the storage devices in Hansen/Kobayashi is not possible because the storage devices in those references are *non-modifiable* by virtue of their very design. Thus, such a combination would be literally nonsensical in the context of Kobayashi and/or Hansen.

In addition, even assuming, *arguendo*, that such a combination is motivated and/or makes sense (which it does not), White does not teach any ability to “disregard” access requests. Allowing “writing to such user-generated information sectors” (White, 5:5-6) is not necessarily the same as “disregarding”, as recited by applicant’s claim 68. White does not teach or suggest a “driver that disregards access requests to the unprotected space.” Thus, claim 68 is not rendered obvious by Hansen and/or Kobayashi in view of White.

Conclusion

Therefore, for the above reasons and others, neither Hansen, Kobayashi, the Microsoft Dictionary, or White, alone or in any motivated combination teach, motivate or suggest one or more aspects of the independent claims, and thus claims 1-3, 32, 54, 72, and 79 are not anticipated by or rendered obvious in view of Hansen, Kobayashi, Dictionary, and/or White. Similarly, because dependent claims 4-9, 11, 13-31, 33-53, 56-71, 73-78, 80, 81, and 83 incorporate these aspects by virtue of their dependencies, claims 4-9, 11, 13-31, 33-53, 56-71, 73-78, 80-81, and 83 also are not anticipated by or rendered obvious in view of the cited references, alone or in any motivated combination, at least for the reasons set forth above.


In view of the foregoing, applicant submits that all of the claims in this application are allowable over the cited references. In the event the Examiner disagrees or finds minor informalities, applicant respectfully requests a telephone interview to discuss the Examiner’s issues and to expeditiously resolve prosecution of this application. Accompanying this Amendment is an Applicant Initiated Interview Request Form in the event the Examiner does not agree that the claims are allowable over the cited references. Applicant’s representative can be contacted at (206) 622-4900.

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Reply to Office Action dated October 25, 2005

In closing, applicant respectfully requests the Examiner to enter these amendments and to reconsider this application and its early allowance. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Again, applicant's representative thanks the Examiner for his prompt and courteous attention.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

A handwritten signature in cursive script that reads "Ellen M. Bierman". The signature is written in dark ink and is positioned above a horizontal line.

Ellen M. Bierman

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EMB:asl

Enclosures:

Postcard

Applicant Initiated Interview Request Form

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